

nine were males and the remaining 43 females, the preponderance being still greater; of the 236 specimens obtained from hosts collected in nature, 77 were males and 159 females; the preponderance is much less than in the other class, being but as two is to one, and we are inclined to believe it to be the true condition.

THE FOOD OF CALLIGRAPHA BIGSBYANA, A CHRYSOMELID BEETLE.

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All of the adult specimens and larvæ of *Calligrapha bigsbyana* secured for me, or that I myself have collected, have been found upon the long-leafed willow, *Salix longifolia*, and so far as I have been able to ascertain, they do not occur in nature upon any other species of plant. It was discovered several years ago that both adults and larvæ thrive equally well in the laboratory when fed upon leaves of *Salix amygdaloides* (Hegner, 1908).¹ The following experiment was undertaken to learn if *Salix longifolia* is preferred.

Larvæ that had been fed in the laboratory on *Salix amygdaloides* pupated on July 2, and the adults emerged on July 14. On July 15 two males and two females were placed in a stender dish containing three leaves each of *Salix longifolia* and *S. amygdaloides*. The beetles crawled over the bottom, sides and top of the dish as well as over the leaves, and if they had preference for either sort of leaves they were given ample opportunity to show it. The leaves of *S. amygdaloides* were attacked as quickly as were those of *S. longifolia*, and as much of the former was eaten as of the latter. The experiment was continued for a month, fresh leaves of each species of willow being supplied to the beetles every day, but in no instance was a preference for either sort observed.

Beetles that are kept in stender dishes usually lay their eggs upon the leaves, but sometimes they fasten them to the sides or top of the dish. The two females used for this experiment chose one kind of leaf as often as the other upon which to lay their eggs. Why these beetles are found only on *S. longifolia* in nature, though they show no preference for it in the laboratory, is a question still unsolved.

¹ Observations on the Breeding Habits of three Chrysomelid Beetles, *Calligrapha bigsbyana*, *C. multipunctata*, and *C. lunata*. *Psyche*, Vol. 15, pp. 21-24.